

CHAPTER – IV

COMMUNICATION SYSTEM FOR CIVIL DEFENCE

Introduction

The Civil Defence Organisation must have an effective communication system for rapid response and deployment of Civil Defence resources during War Emergencies as well as disasters. The communication system should be based on multiple networks involving different means of communication to overcome serious disruptions during emergencies. Broadly, the communication service will have the capacity to undertake the following functions.

- Installation of an extensive warning system to include telephone network coupled with audible systems. The Civil Defence organisation will carry out maintenance, installation and care of sirens along with centralized control for operating the systems.
- Preparation of Warning lists for dissemination of information through telephone.
- Plan, Organize, enroll and train personnel for control centers and sub-control centers.
- Organized Messenger Service as backup for transmission of messages.
- Provide and maintain wireless radio equipment for communication between places of damage and control / sub-control centers.
- Provide and maintain requirement of telephones for Civil Defence Services.

The Communication Services for Civil Defence will be organized on the same principles enumerated in Chapter-I and will include –

- Designating an officer with sufficient experience of planning, communication network has Officer Commanding Communication Services. He shall be overall responsible for organizing, enrollment, administration and training of personnel.
- Designating a Messengers Commandant under OC Communication Service to deal with enrollment, administration and training of all messengers.
- Designating Officer In-charge's for each Control / Sub-control Centers.
- Planning, Siting, layout and staff for Control / Sub-control Centers.
- Arrangements for information and display systems within the Control Center.
- Administrative arrangements for 24 hour operational functioning of Control / Sub-control Centers.

Part-I

System of Warning

In times of war emergencies and disasters implementation of Civil Defence measures effectively depend upon reliable warning systems in all vulnerable districts. These measures to be effectively implemented, it is imperative that adequate communication systems are available to the Civil Defence personnel concerned at all levels. Warning for any impending threat affords time for the people to take shelter and undertake various Civil Defence measures for protection. The system should also incorporate communication to the threatened population regarding dissipation of the threat to resume normal activities.

Civil Defence Warning System

The Civil Defence Warning System is depended upon active Air Defence measures undertaken by the Indian Air Force. Since our borders extend to hundreds of miles on all sides the information is collected at certain selected centers, where from the warnings originates and are transmitted quickly to threatened areas. The reception of warning from IAF and transmission of messages to Civil Defence areas are included in the external warning system. The dissemination of these warnings in an area under the jurisdiction of a C.D. Control Center Constitutes Internal Warning System. During War Emergencies, due to the high speed of aircrafts and the proximity of our potential enemy it may not always be possible to give more than a few minutes warning and in certain cases it may not be possible at all to give any warning.

1. External Warning System:

The impending threat in war emergency will be detected by Defence Service surveillance radars and natural disaster by Indian Metrological Department Detection Systems. These detection centers will alert the Civil Defence Control Centers to activate the response system.

- **During War Emergency**

- The General duty liaison officer at the Air Defence Directing Center (ADDC) of the IAF forwards the air raid warning to the Regional Civil Defence Control Center (RCDCC).
- The Regional Civil Defence Control Centers after receiving the warning transmits the same to a number of Civil Defence Control Centers through a specially built P&T telephone network as well as through high frequency radio net. At the Air Force end, the information obtained through radar is plotted on a large map at the ADDC and defensive counter measures are put into action by each ADDC. Each ADDC in addition to its own active air defence action will pass air raid warning to the Regional Civil Defence Control Center responsible for the region. The target areas will be divided into zones according to the convenience of the communication facility available in the particular area. The warning received from the Sector Operation Center is intended for the zone surrounding the receiving point

and should not be conveyed to the neighbouring or other zones for whom it is not intended.

- **During Natural Disaster**

- The Regional Civil Defence Control Centers will be linked up to Regional Meteorological Centers for receipt of weather warnings and transmission to threaten areas.

Features of External Warning System:

The ADDC / ADCC of Air Force and RCDCC are connected by direct non-exchange telephone lines (two pairs) as well as by VHF radio link as stand by. While transmitting warning the ADDC / ADCC will first give an audible and visual signal to RCDCC which can converse over the hand set provided if required. This unit is termed as "Speaker and Warning tool". The RCDCC disseminates the warning to a number of Civil Defence Control Centers (CDCCs) through land line as well as HF radio Network. The RCDCC is connected to the local trunk exchange by direct non-exchange lines and the trunk exchange at RCDCC point is designated as Controlling Trunk Exchange. Each Controlling Trunk Exchange makes use of public Trunk lines existing to a number of other trunk exchanges of CD districts.

These distance trunk exchanges are designated as controlled trunk exchanges which in turn or connected to Civil Defence Control Center (CDCC) by direct non-exchange lines. The warning message is transmitted by RCDCC through audio visual method to the controlling trunk exchange by lifting the hand set of the specially provided telephone. This audio visual indication (i.e. a tone) is sent automatically to all the controlled trunk exchange operators either at Controlling Trunk Exchange or at distant controlled trunk exchange. This facility is termed as "**Conference Call Facility**".

On receipt of this audio visual warning, the Monitor in the trunk exchange immediately connects the outstations (CDCC) over trunk call for the passage of emergency messages. The controlling trunk exchanges are provided with special equipment to afford conference call facilities to the RCDCC and under this system the RCDCC will be connected to all CDCCs through the controlled exchanges for dissemination of warning to all the stations at a time. Where such facilities are not available, warning messages are transmitted by trunk call under "**Clear the Line Priority**". Under this facility as soon as RCDCC wants to converse with any concerned station the call in progress on the trunk line is immediately disconnected and the concerned station is connected to RCDCC through controlled exchanges immediately. But under this system simultaneous broadcast of messages to all the stations is not possible. Each station is to be conveyed the message one after another. Some of the CDCCs will have the responsibility of relaying the warning messages to other towns where direct trunk circuits are not available. Such CDCCs are designed as Secondary Civil Defence Control Centers (SCDCC).

This system is known as External Radio Warning System. Under this system warning is passed to the TCDCCs directly from RCDCCs simultaneously with the warning issued over P&T line circuits. Under this radio communication system radio terminals working at both RCDCC and TCDCCs are allotted call signs. TCDCCs are called by their call sign number for proper identification.

2. Internal Warning system:

On receipt of warning at the Civil Defence Control Centre it will be disseminated to authorities and facilities located within that zone as well as the general public (incase required) This reliable means of warning system is designated as "Internal Warning System". Rapid dissemination of warning to important officials, factory managers, warden posts and other subscribers of local Telephone network is given to them by Simultaneous Broadcast Facility (S.B.F.). This is done through the ARP equipment located in the P&T exchange. if the public is to be warned then the sirens spread over the area are also operated simultaneously. The sirens are centrally operated through ARP equipment

Dissemination of Warning from CDCC

The warning messages are disseminated to local recipients by telephone / by VHF radio link / through messengers in case of such places that are not connected with telephones/radio or in case the telephone lines are damaged. A warning which is meant for the general public will be conveyed through appropriate signals by sounding sirens. In order to facilitate quick dissemination of warning messages over telephone to more than one subscriber on the warning list simultaneously, use of Simultaneous Broadcast System (S.B.F.) may be made. Such a device will reduce time in sending messages to many recipients by simultaneous broadcast of messages to all of them. Hence for the purpose of simultaneous broadcast over telephone and central control of sirens in an area, ARP equipment is deployed.

The ARP Control unit installed in the CDCC has the following keys for operation:-

- **General Broadcast Key:**

By operating this key the control starts broadcast announcements. All telephone subscribers connected to the main station equipment are disconnected from any conversations and are switched over to the ARP system and other subscribers will have their telephones ringing at a frequency of two seconds on and two seconds off. On picking the receiver they will listen to the broadcast.

- **Special Broadcast Key:**

This is operated for issuing warning to the selected subscribers as per special broadcast list. The operation is the same as above.

- **Warning Key:**

This is operated for dissemination of warning to public through sirens and telephones simultaneously.

- **All Clear Signal Key:**

This is operated for issuing all clear signals on sirens and telephones.

- **Cancel all Signal Key:**

This is operated for cancellation of warning signals which may result due to mechanical faults.

The features of ARP Equipment

There are two types of ARP equipments:

- (i) Standard type; and
- (ii) Small type

The standard type of A.R.P. equipment includes;

- (iii) Control Station Equipment (CSE) installed in the CDCC.
- (iv) Main Station Equipment (MSE) installed in the P&T telephone exchange.
- (v) Sub- Station Equipment installed in other Sub-exchanges of the area.
- (vi) Contactor Unit (relay switch) for operating the siren.

(This equipment and sirens are connected by pairs of non-exchange lines)

The small type equipment consists of a control unit, a main station equipment, and can provide connection to another four sub-station equipment and one satellite station equipment.

The main station equipment connects 144 SBF subscribers (New electronic ARP equipment connects 120 subscribers) of the public telephone exchange and sounding 24 sirens simultaneously. The sub-station equipment is capable of sounding 24 more sirens at a time and disseminating warning messages to additional 72 subscribers (new electronic ARP eqpt will connect 120 subscribers) on SBF. Hence the requirement of sub-station unit besides the main station unit for a standard type of ARP equipment depends upon the number of sirens and telephone subscribers in the town. The sub-station unit is connected to the main station unit and cannot work independently. As soon as the key is operated in the control unit from the control centre both the main station and sub-station units are actuated simultaneously. The small type of ARP equipment comprises of:-

- (i) A Control Station Equipment
- (ii) ARP unit
- (iii) Contactor unit.

This equipment is capable of controlling up to the maximum of 4 sirens at a time and transmitting warning messages to 12 subscribers on SBF of the public telephone exchange. The control unit is installed in the control and the ARP unit in the telephone exchange. Facilities are same as in the standard type of equipment. A town having not more than 4 sirens may, therefore, be provided with a small type of ARP equipment.

Types of Warning Messages:

(i) Preliminary Caution Message:

The message is a preliminary one and is confidential. It is a forewarning for any threat or break out of hostilities. The text of the message is "Air Raid Message-Yellow". This message will be kept confidential to minimize public alarm and will be received by a limited number of officials on the Special Warning List such as Headquarters of Civil Defence Organisation.

Police, Fire Brigade, vital factories / installations, public utility concerns and Railways. Recipients may inform such of their subordinate as they consider necessary.

(ii) Action Warning Message :

This warning indicates that the threat is imminent within a few minutes and is a confirmation of the "Preliminary Caution". The text of the message is "Air Raid Message-Red". The message is received by those in the Action Warning List of threatened areas. The message is passed on by telephones to those on the Action Warning List, some of whom will be responsible for sounding the public warning signals. The various signals used are given in Appendix-A.

(ii) Raiders Passed Message :

This message means the period of danger / threat is over for the areas warned. The text of the message is "Air Raid Message-Green", and is conveyed to all recipients on the Action Warning List some of whom will sound the "Raiders Passed" signal. The signals used are given in Appendix-A.

(iii) Cancel Caution :

This will indicate reduction in threat or declaration of ceasefire during war emergency. The text of this message is "Air Raid Message-White". This message is confidential it will be passed on to all those who received the "Preliminary Caution (irrespective of whether or not they received the Action Warning and Raiders Passed) messages". On receipt of this message normalcy is resumed.

(iv) I.B. attacks :

This warning is given by air raid wardens and police by means of a succession of short blasts on a whistle. The type of signals used are given on Appendix-A.

VIII. Recipients of Warning Messages :

The telephone numbers of persons who will receive Warning Messages as per Warning Lists are follows:-

(i) Special Warning List:

This list will show the telephone numbers of those who are eligible to receive the air raid message "Yellow" and "White".

(vii) Action Warning List :

This list show the telephone numbers of those eligible to receive the air raid messages "Red and Green".

(iii) Messenger Warning List:

The list will consist of the Civil Defence and other Organization's eligible for warning under (i) and (ii) above, which can be warned quickly by a messenger in order to relieve the load on the telephones and to provide for places which have no telephones.

(NOTE- It may however be noted that the S.B.F. of the I.T.I. A.R.P. equipment provides arrangements to contact only one set of subscribers and therefore preferably it should be used for special warning list).

Factory Hooters:

Factory Hooters not included in the network for Public Warning Signals should be sounded in case of an emergency after hearing the public warning to alert the factory workers. The use of factory hooters for purposes other than emergency warning will be prohibited during war emergency / disaster. Efforts should be made not to allow Internal warnings to be audible outside the factory premises. The factories or institutions whose location or process of working would make it difficult for public siren to be heard clearly must be integrated with the Civil Defence Warning Network.

Sirens:

Instruments suitable for air raid and warning signals are of three general types :

- (i) Steam sirens and whistles.
- (ii) Rotary compressed air sirens, power driven.
- (iii) Rotary self governing sirens, electrically driven.

Where 4 H.P. electrically operated sirens are available they should be provided on the scale of 1 per square mile area. The actual location of sirens will have to be finalized after carrying out the audibility test. The maximum use should be made of the existing factory hooters, sirens etc. by including them in the public alarm system of the town. Hand operated sirens may be allotted at a scale of one per Warden Post.

Siren Control:

Normally sirens are operated on central control from CDCC through the ARP equipment. However, there may be occasions to operate the siren locally due to failure of central control. Hence a local switch should be provided. This must be located at a secure place to avoid access to unauthorized persons. The Siren will be provided power locally at the site where it is installed.

APPENDIX – A
PUBLIC WARNING SIGNALS

Types of Warning	General Alarm System, Sirens etc.	Local Alarm System, Whistle etc.
1. Action Warning (Red)	A signal of 2 minutes duration consisting of EITHER of fluctuating or warbling note of varying pitch in which frequency Range is not less than 10% above and below the mean pitch. The complete cycle of each fluctuation to extend over a period of about 3 to 5 second or a succession of intermittent blasts of about 4 seconds duration separated by a silent period of about 4 seconds.	A short blast followed by a long blast repeated at intervals of 3 seconds for 2 minute. Or A visual signal may be used viz. Both arms raised above and waved or any other method decided upon locally.
2. Raiders Passed (Green)	A continuous signal of 2 minutes duration at a steady pitch.	2 long blasts on the whistle Repeated at interval of 3 seconds for 2 minutes.
3. Incendiary Bombs Attack	Same as in Sr. 1 above	A succession of short blast on whistle.

APPENDIX – B
EMERGENCY WARNING MESSAGE SEQUENCE

Situation	Message	Test	To whom sent.	Remarks
Break-out of hostilities or impending threat to a zone.	Preliminary Caution	Air Raid Message YELLOW	Recipients on the Special Warning List	The message is only preliminary one and is intended be Confidential. Recipients may however advise such of their subordinates as they consider necessary.
Threat is real and will take place within few minutes.	Action Warning	Air Raid Message RED	Recipients on the Action Warning List.	Message passed to Authorities on the warning list and the public through sirens.
Period of danger / threat over	Raiders passed	Air Raid Message GREEN	All recipients of Action Warning	Message passed to authorities on the Action warning list some of whom will be responsible for sounding the Raiders Passed Signal.
Complete reduction of threat and declaration of ceasefire.	Cancel Caution	Air Raid Message WHITE	All recipients of preliminary caution (Whether or not they have received action Warning and Raiders Passed Messages)	This message is intended to be confidential. It will be passed on only to those who received the preliminary caution.

APPENDIX – C

Recipients		Whether eligible For special list Yellow/White	Whether eligible for action list in all		Responsibility for conveying warning	Whether remarks responsible for information another recipient
			Circumstances Red / Green	Only if not in hearing range of any public signal		
(1)		(2)	(3)	(4)	(5)	(6)
1.	Raj Bhavan	Yes	Yes	-	C/C	
2.	C.D. Controller	Yes	Yes	-	Do	
3.	District Magistrate	Yes	Yes	-	Do	
4.	Local Naval, Military and Air Force	Yes	Yes	-	Do	
5.	Ordinance Factories	Yes	Yes	-	Do	
6.	Sub Control Centres	Yes	Yes	-	Do	
7.	Operators of Public Warning Signals	Yes	Yes	-	Do	
8.	Police Hqrs.	Yes	Yes	-	Do	
9.	Fire Hqrs.	Yes	Yes	-	Do	
10.	Port Trust	Yes	Yes	-	Do	
11.	Railways	Yes	Yes	-	Do	
12.	Telephone Exchange	Yes	Yes	-	Do	
13.	Electricity Generation Station	Yes	Yes	-	Do	Only gas producing work to be included
14.	Gas Works	Yes	Yes	-	Do	
15.	Water Works	Yes	Yes	-	Do	

16	Oil Installations	Yes	Yes	-	Do	
17	Aerodrome Officers (At Civil Aerodrome)	Yes	Yes	-	Do	Detached Gas holders will not be included
18	Heads of C.D. Services	Yes	Yes	-	Do	
19	A.I.R. Stations	Yes	Yes	-	Do	
20	Cantonments	Yes	Yes	-	Do	
21	Municipal Hqrs.	Yes	Yes	-	*S C/C	
22	Mints & Security Press	Yes	Yes	-	Do	
23	G.P.O. and C.T.O.	Yes	Yes	-	Do	
24	Hospitals	Yes	Yes	-	Do	
25	Jails	Yes	Yes	-	Do	
26	Wardens Posts/ (Fire and Posts, Depots) *C/C-Control Centre *S C/C-Sub Control Centre	Yes	Yes	-	Do	

PART – II

Control of Operations

Introduction

In order to respond rapidly to any incident created by enemy action / disaster, a systematic information collection and management has to be developed at a centralized location for the authority to make quick decisions. To achieve this objectives Civil Defence Organisation plans and sets up control centers and sub-control centers.

The District Magistrate / C.D. Controller, the Heads of Civil Defence Services and Essential Services to effectively control and co-ordinate action required as a result of any threat and come to quick decisions, will require central headquarter to be termed as **Control Center** where -

- (i) they can meet and decide on the action to be taken and consult each other.
- (ii) they have speedy access to all essential information affecting the situation.
- (iii) they have means to communicate orders and information to all concerned.

There shall be one Control Center planned for every Civil Defence area / district with an additional provision for organizing Sub-Control Centers at the rate of one per 6 lakh population.

The District Magistrate / C.D. Controller will designate an Officer from his District as Officer Commanding Communications Service. He should have adequate experience on telecommunication networks and preference can be given to the District Telecom Manager. He will be responsible for preparing local plans for Civil Defence Communications Services to include planning of Control and Sub-Control, requisition of telecom equipment, establishment of warning network, organizing manpower, administration and training of the personnel as per Master Plan for Civil Defence.

The information from any damage areas due to enemy action / disaster will be given by Wardens or other authorized reporting persons to Sub-Control Centres from which orders to Civil Defence Depots will be issued for the dispatch of services. They will also pass on the information to the Control Centre, so that the latter will monitor the progress and any reinforcements necessary.

Depot Superintendents in charge of Civil Defence Depots will normally take action only in accordance with messages received from the Control Centre or from a Sub-Control Centre; they may, in exceptional circumstances, have to comply with demands received direct from Wardens or others in which case the Sub-Control Centre must be informed of the services dispatched.

Owing to constraints of space available that is required to suit local conditions it may not be possible to standardize completely the staff and procedure of Control Centres and Sub-Control Centres. However, broad principles for staff and procedures which can be adopted to suit local conditions can be made.

Considerations for Control / Sub-Control Centers

- (a) The Control and Sub-Control Centre must be in a position to receive and deal with reports of damage or other messages 24 x 7.
- (b) The general situation in the area must be maintained as a map record;
- (c) Messages reporting fires must be dealt with immediately.
- (d) Information which might affect the operation of any service e.g. blocking of roads, destruction of bridges, etc.) should be readily available and notified to all concerned as a matter of routine;
- (e) A ready reckoner should be instituted whereby the Controller and the Heads of Services can see at a glance the whereabouts of the parties of various services and the number of parties which are available for duty at their depots;
- (f) The operational staff should be such that under heavy damage, decision to make optimum use of limited resources on the order of priority in which the damage awaiting attention is to be dealt with immediately and as additional resources become available. An consensus should be arrived at by all Heads of Civil Defence and Essential Services involved with reference made to the District Magistrate / Civil Defence Controller, if a difference of opinion arises; and
- (g) Arrangements must be made for the preparation and dispatch of reports required by higher authorities.

Delegation of Control

The controlling officers may not be in a position to keep in close touch with all the events, and as such authority should be delegated to the Officers-in-Charge of the Sub-Control Centres to carry out such functions as may be considered necessary. Such delegation is generally best limited to the dispatch of the mobile Civil Defence Services located in the area served by the Sub-Control Centres (e.g. Ambulance Service, First Aid Party, Rescue Service); The District Magistrate and C.D. Controller would be able to deal with matters pertaining to -

- (i) Organizing assistance from non-affected areas.
- (ii) Designation of Hospitals and First Aid Posts (e.g. admission, transfers, removal of casualties, etc.);
- (iii) Unexploded Bombs / Explosive devices.
- (iv) Care of homeless.
- (v) Repairs to essential services;
- (vi) Clearance of debris, etc.

The Sub-Control Centres may however in respect of items (iii) to (vi) take immediate action as is possible.

Management of Control / Sub-control Center

- ***District Magistrate and Civil Defence Controller –***
 - Have general control on all action to be taken as a result of an emergency and keep updated on the general situation.
 - Take decisions on matters of major importance. Where the functions of the District Magistrate and C.D, Controller are not performed by one officer, the District Magistrate has the responsibility for taking the final decision on any matter, should a difference of opinion arise between any of the officers concerned.
 - Arrange for local or external support / reinforcements to the Sub-Control Centres from neighbouring areas.
 - Keep higher authorities informed on general situation through regular reports.
- ***Heads of Civil Defence Services and their Deputies -***
 - Have general control and supervision over task allocated to their respective services.
 - Consult with others on common matters affecting more than one service.
 - Decide on action to be taken on each incident in consultation with District Magistrate and C.D. Controller.
 - They will not intervene in the normal functioning of the Control Centres unless becomes necessary to allocate services to incidents in order of priority.
- ***Representatives of Essential Services -***
 - Arrange for any action necessary to be taken by their respective services.
 - Keep their headquarters informed on general situation and matters affecting their services.
 - Provide consultation to the District Magistrate and C.D. Controller.
 - Maintain a record of progress on repair & restoration work.
- ***Officer-in-charge*** - The OC Communication Service will place each control & sub-control under an officer designated as Officer- In-charge who shall be overall responsible for the functioning and administration of Control & Sub-control Centers.
 - The OIC will be responsible for the dispatch of services. He will be directly subordinate to the District Magistrate and C.D. Controller and may act as deputy for the latter when he is not available.
 - If the situation is such that the order of priority in which incident should be attended is to be decided he will be directed by the District Magistrate and C.D. Controller. He will then be responsible for the consequent operational action.
 - If necessary he will decide on the priority of dispatch of messages.
 - He will ensure that all clocks and watches are synchronized at regular times each day with Post Office, Radio or Railway time.
 - He will be responsible for the efficient organisation of the Centre, training of the staff, maintenance of roster of duties and provision of reliefs.
 - He will see that arrangements for alternative lighting and other precautions are satisfactory.

- **Intelligence Officer** –

- He will act as Staff Officer to the District Magistrate and CD Controller in the Control Room.
- He will maintain a diary of all important events and a record of each incident showing the action taken.
- He must be ready to give update on the situation and actions initiated at all times.
- He will prepare drafts of such reports that are required to be sent to higher authorities. To enable him to do this he should see every “IN” and “OUT” message and have ready access to the files maintained by the record clerk.
- It is desirable that anyone in the Control and Sub-Control Centre may at any time see what has been done about any incident. The Intelligence Officer will, therefore, after noting the contents of “IN” and “OUT” messages which he receives, place them together in order in which they were received or dispatched and hang them on boards fixed in a suitable place on the wall of the Map Room.
- He will prepare reports on the use of new weapons and new enemy tactics as required by the C.D. Controller.
- He will update static damage cards (vide Appendix IV-K).

- **Chart Writer** -

- He works with the plotting Clerk.
- He receives all the copies of “IN” messages and allots a serial reference number to each incident and enters it on the bottom right hand corner of each “IN” message form. To avoid confusion between the incidents of different days and months, the date and month of occurrence should be depicted after the number e.g. 5/1603 will indicate incident No. 5 of 16th. March (First two digits indicating date and last two digits indicating the Month). Any messages which are received and which relate to the same incident must be similarly marked with the number previously given to that incident.
- He will forward a copy of any message reporting a fire incident without delay to the Fire-Liaison Officer or in his absence to the Officer-in-Charge of the Centre. If necessary, without allocating incident number, which can be entered later.
- He will maintain a chart for record with following columns –

I n	Incident No.	Time of incident	Place of incident	By whom reported
t h e h				

He will check the information to be filled in the chart with the Plotting

Clerk's copy of the "IN" message before it goes to the record clerk for filing. At midnight he will draw a line below all previous entries. The first incident reported after midnight will be given Serial No. 1

- **Plotting Clerk -**

- The Plotting Clerk is responsible for keeping the map updated and ensure that it gives an accurate situation as it has been reported at any given moment.
- As reports come in he must determine whether they relate to fresh incidents or incidents which have already been reported. If it is a fresh incident he will inform the Chart Writer so that a serial reference number may be allotted.
- He will plot the incident on the map using the incident tabs and pins provided for the purposes. The appropriate coloured pins should be inserted in the map at the point where the incident had occurred and the tab bearing the number of the incident should be hung on it. Should it be multiple incident e.g., H.E. and fire, then the blue and red pins should be struck in at the same place and the tab hung on one of them.
- He will remove the pins for any incident when it has been reported as cleared, but he should consult the Officer-in-Charge before doing so. Pins indicating unexploded bombs, roads blocked and closed roads should not be removed until the bombs have been disposed of or the roads reopened. The incident tabs should be removed when the incident had been reported as dealt with and in any case at 23.59 hrs. on the day following that on which the incident occurred.
- He will keep Static Damage Map up-to-date (see Appendix IV-K)

- **Tally Board Clerk –**

- He operates the Tally Board under the immediate supervision of the Officer-in-Charge.
- He is responsible for keeping the Tally Board up-to-date so that it correctly shows the distribution of the Civil Defence Services. To enable him to do this, he must see copies of all "IN" and "OUT" messages affecting movement of services.

- **Record Clerk - ***

- He files all "IN" and "OUT" messages in files numbered to correspond with the reference number of the incident to which they refer. He had this available for reference a complete record of all reports and the action taken in respect of each incident. He will also maintain a log book for recording the main events of the day.
- He should file a duplicate copy of all "OUT" messages passed for dispatch and attach to them the original, with the spaces for 'date', 'time of dispatch' and 'telephonist's initials' completed. Thus any one consulting the file can see whether an "OUT" message has been dispatched or not. There should be a separate file for each incident.
- All incidents should be properly recorded and suitably indexed. A sheet of coloured paper should be used to separate messages relating to fresh incidents. Records should also be maintained for messages to and from

the next higher or lower authority and other miscellaneous messages which do not relate to any particular incident.

- After midnight a new set of files will be started for fresh incident occurring in the next 24 hours. After the incident on a file has been closed, it should be recorded. All the files should be arranged date-wise in serial order of incident number.
 - He should be continually scrutinizing his files with a view to (a) verifying that all messages included have been correctly filed and that any superfluous copies are removed and (b) detecting and bringing to the notice of the Officer-in-Charge any incidents in regard to which action is unaccountably incomplete or slow.
- ***Clerks to the Controller and the Heads of Services*** – They will write messages as instructed by the officers they serve and assist them in any other way required.
 - ***Message Supervisor*** –
 - Is in charge of the Message Room and is responsible to the Officer-in-Charge for the training of its staff.
 - Will arrange the daily roster of duties for all the Message Room personnel so that a small Skelton staff is always on duty and a full staff is available at a very short notice by day or night.
 - Will supervise the work of the Message Room generally to ensure that it is carried out with accuracy and rapidly, that the message are legible and that the message procedure is correct.
 - Will perform the Officer-in-Charge of any interruptions of congestion of the Communication System.
 - If congestion occurs he will ensure that the messages are dispatched according to the order of priority ordered by Office-in-Charge.
 - During periods of congestion he will authorize the use of “IN” telephones for “OUT” messages.
 - He will ensure that the messages are dispatched by the most expeditious means e.g., by telephone or by messenger, as may be deemed best at the time.
 - He will ensure that each telephonist has a list of all telephone numbers which it may be necessary to call. The names and addresses with the authorized abbreviations of the subscribers should be in alphabetical order for easy reference.
 - He will see that messages are completed with the particulars concerning the ‘date’, ‘time at which receipt or dispatch of message was completed and ‘telephonist’s initials’.
 - He will see that “OUT” message after dispatch are promptly returned duly completed, to the record clerk for filing and that when messages are sent by messenger the necessary details of dispatch are sent to the record clerk.
 - If messages are received by Messenger he will ask the Officer-in-Charge if he wishes to question him before he departs.
 - He will answer the telephone himself in case of difficulty with any caller.

- **Telephonist -**
 - They will write down and transmit messages correctly, rapidly and in accordance with the rules for message procedure.
 - Messages must be checked back to ensure accuracy and after completion they will be handed over to an Indoor Messenger for check by the Message Supervisor
 - Message Writing-(For specimens of Message Forms, see Appendices IV-G, IV-H, IV-I and IV-J).

- **Indoor Messengers** – They will give general assistance and will act in accordance with the instructions of the Officer-in-Charge.
- **Reconnaissance Parties** – The primary function of these parties will be to carry out reconnaissance of unexploded bombs. The reconnaissance of UXBs (Unexploded bombs) involves detailed knowledge of various types of bombs and their fuses with which a Warden may not be thoroughly familiar. Apart from this, there may be occasions when Reconnaissance Parties may be usefully employed :
 - For reconnaissance at places where damage of severe type has occurred. Only a detailed reconnaissance by specially trained parties at such places will disclose the true picture of damage. Such reconnaissance, which presupposes a certain technical standard, is beyond the scope of a 'Warden'. The C.D. Officers present in the Control Room or at the scene will need the assistance of these specialists whose reconnaissance will help them considerably in formulation their line of action.
 - Where special types of weapons are used by enemy, a detailed study of these weapons and their effects will be useful both for defensive as well as offensive purposes. The personnel of these parties, with their knowledge, would be able to furnish useful data so that methods may be devised for training C.D. personnel in dealing with such weapons.

Alternate Control Centre – The possibility of Control Centre being put out of action by a chance direct hit should be considered and alternative arrangement should be made to meet such emergency by designating one of the Sub-Control Centres to assume the functions of Control Centre also. Similarly any Sub-Control Centre should be able to assume the functions of the neighbouring Sub-Control Centre when the need arises.

Where there is only one Sub-Control Centre which is combined with a Control Centre, it is necessary to make arrangements for an alternative Control Centre (i.e. shadow Control Centre) with similar facilities as for the main Control Centre. The staff who should man the shadow Control Centre on receipt of preliminary warning may be designated in advance.

Location of Control and Sub-Control Centres – The location of a control and Sub-Control Centre will largely depended on the availability of suitable accommodation which can be made available and given the required standards of protection. The question of access to the place by messengers from all parts of the area must also be kept in mind, as well as suitability from the point of view of telephone communications. The administrative officers of the Government or of the Municipalities generally provide facilities from this point of view; they also contain suitable rooms. An additional

advantage is that a great part of the staff of the Centre may be recruited from the office staff itself who may carry on with normal office work at times when the Centre is not required to be fully manned.

Where there are more than one Sub-Control Centre it is also convenient if the Control Centre is located in the same building as one of the Sub-Control Centres. Both centres should retain their separate functions. But the Control Centre should be adjacent to the Sub-Control Centre so that some economy in accommodation, telephone lines and staff may result (e.g. the Outdoor Messenger's Room may be shared).

Layout – A suggested layout for the various ends of Centres is shown in diagrammatic form in the appendices :-

Appendix IV-A shows a Combined Control and Sub-Control Centre.

Appendix IV-B shows a Sub-Control Centre.

Appendix IV-E is a guide to the size of Control and Sub-Control Centres.

A short description of the layout of a Control Centre is an area where there is more than one Sub-Control Centre is given below :-

- (a) **Map Room** – Wall space is required for the display of a large scale map covering the whole area. Space should also be allotted for the "Tally Board" (see para 4.9)

The Officer-in-Charge, the Plotting clerk and their staff will work here; there must be accommodation for the District Magistrate and Civil Defence Controller, the Head of Civil Defence Services, and the Representatives of the various Essential Services.

- (b) **Message Room** – In this room only the reception and transmission of messages will be dealt with. Provision must be made to accommodate Telephonists, Message Supervisor and Indoor Messenger.

The Message Room is best located next to the Map Room with two hatches in the dividing wall for "IN" and "OUT" messages respectively. In any event it must not be far from the Map Room, or otherwise it will result in undue delay.

- (c) **Messenger's Room** – Outdoor Messengers will wait here until required.

It should be so situated that it can serve as an intersection point at which visitors to the Centre are detained pending instructions of the Officer-in-Charge.

It should be provided with "IN" and "OUT" hatches in the dividing wall between it and the Message Room.

Telephones, accommodation etc.

Control and Sub-Control Centre

The following lines will be required and should be given ex-directory numbers –

- (i) **Exchange Lines** -

One-For the use of the District Magistrate and Civil Defence Controller;

One-For the use of each Head of Civil Defence Service and Representatives of Essential Services; one telephone, however, might well be shared by two or more persons; and

One-For receipt of air raid warnings.

(ii) **Direct Lines -**

One to each Sub-Control Centre;

One to Fire Brigade Headquarters;

One to Police Headquarters;

One to Military Headquarters (if the town is also a Military Station); and

One to the next Higher Authority, Headquarters of the Commissioner or State Government. (This might, however, be an exchange line).

Where telephone lines cannot be obtained it will be necessary to depend on Messengers.

Combined Control and Sub-Control Centre

(a) Number of telephones for a Combined Control and Sub-Control Centre.

(i) **Exchange Lines -**

(1) Map Room

1 for Civil Defence Controller.

1 for each of the two Heads of Civil Defence Services and the Representatives of Essential Services.

1 for Officer-in-charge.

(2) Message Room (ALI lines on P.B.X. system)

Town of 50 Wardens Posts in which there are telephones-6 In. 6 Out.

Town of 40 Wardens Posts in which there are telephones-5 In. 5 Out.

Town of 30 Wardens Posts in which there are telephones-4 In. 4 Out.

Town of 20 Wardens Posts in which there are telephones-3 In. 3 Out.

Town of 10 Wardens Posts in which there are telephones-2 In. 2 Out.

1 Special for Warnings.

(ii) **Direct Lines-**

(1) In Map Room

1 to Military Headquarters.

1 to District Headquarters or State Government.

(2) In Message Room

1 to each Fire Station if the Chief of the Fire Brigade has his headquarters in the Control Room; or

1 to Fire Bridge Headquarters if it is elsewhere than in the Control Room.

1 to Police Headquarters.

1 to each Sub-Control Centre.

- (b) **Personnel**-The establishment excluding controlling staff, for Combined Control and Sub-Control Centres of various sizes is given Appendix IV-F (1 &2). There shifts are necessary. A reserve of 25 per cent should be trained.
- (c) **Additional Accommodation** – Apart from the operational rooms of the Control and Sub-Control Centre the following additional accommodation should be provided :-
- (i) Feeding for personnel on duty.
 - (ii) Retiring Room.
 - (iii) Sleeping accommodation for those on duty at night who are not expected to remain awake until the 'Action Warning' is received and for that proportion of those shifts who for any reason are unable to remain at their homes.
 - (iv) Shelter for any staff over and above those on duty in the Control and Sub-Control Centres.
 - (v) Lavatory.
- (d) **Protection of the Control and Sub-Control Centre**-The Control and Sub-Control Centres should be given standard protection against the blast and splinters effect of High Explosive Bombs and against the fall of debris caused by the collapse of upper storeys (of paragraph 1.14).
- (e) **Ventilation** – Adequate ventilation should be provided.
- (f) **Lighting** – An emergency lighting system should be installed.

Equipment – The equipment required for Control Centres and Sub-Control Centres is similar and the following applies to both. A reserve of 10 per cent of the equipment should be maintained.

The map must be so situated that it is fully visible to the controlling staff and the officer-in-charge. It may be hung on the wall or placed on a sloping table. It should be mounted on material such as cork line or low density wall board, so that pins may be easily inserted. The map should cover the whole area controlled by the Control Centre of the Sub-Control Centre. The largest scale possible should be used. Upon the map should be marked the location of the Control Centre, Hospitals, First Aid Posts, Civil Defence Depots, Warden's Posts, Police, Fire Station etc. Important factories and undertakings should not be marked in any way which will indicate that they are vital to the war effort. (This is secret information). Too much detail should be avoided, otherwise it will be impossible to show a clear picture of the damage which is the main

subject of the map. It is not necessary to mark the boundaries of Warden's Post areas should be shown and indicated by the murder given to the post, e.g., K.B. (1). (See paragraph 6.6).

Representatives of Essential Services should be provided with map showing the layout of their respective services, e.g., the representative of the electricity undertaking should be provided with a map showing the layout of the cables, stations and sub-stations, etc.

Damage Indicators – Pins with different coloured heads to denote the type of incident and tabs which may be hung on the pins to denote the number allotted to the incident by the Chart Writer should be provided, for example.

- (a) Incident pins about 1½ inches long with different coloured heads e.g. –
Navy Blue-to represent H.E.
Red-to represent fire still burning.
Blue with a white spot-to represent unexploded bombs.
Silver White-to represent crashed aircraft.
- (b) Incident tabs are small discs with holes large enough to admit of their being hung on the incident pins in use. Tabs should be serially numbered the number being shown on each side; 1 to 25 should be enough for most centres. Two sets are required, one coloured white with black numbering and one coloured black, with white numbering, for use on alternate days in order to distinguish incidents occurring on the previous day.
- (c) *Road Block Pins* – Pins with heads differently shaped from the incident pins should be used for this purpose, but should be provided with coloured heads as for incident pins. The appropriate colour denoting the reasons for road block should be used.
- (d) *Road Closed Pins* - Pins with black and white heads should be used to delimit the area closed.

Tally Board – A Tally Board showing the resource available and their allocation should be provided for each Control and Sub-Control Centre. It is not necessary for each Head of Service to maintain a separate Tally Board for his use as he will be able to see the one provided for the Centre as a whole.

Particulars of a suggested Tally Board are given in Appendix IV-D.

Telephones – It will be convenient if the “IN” telephones are given consecutive numbers and arrangements are made with the Posts and Telegraphs Department for a “P.B.X.” (Private Branch Exchange) system of numbering to be installed whereby a call made to the first of the numbers will, if that is engaged, be passed automatically to the next disengaged number.

Visual Calling indicators – Visual calling indicators are preferable to a number of telephone bells/buzzers and if possible arrangements should be made for their installation in the Message Room at least.

Switch Boards – Switch Boards provide for communication between a number of rooms in one office, access from several internal telephones to lesser number of

external lines, the connection of an incoming call to a particular recipient, and the concentration of lines for a reduced staff at times when the office is not fully staffed.

For Civil Defence communication the number of external lines must in any event be approximately equal to the number of telephones installed because the use of a switch board would lead to delay increase in faults and need for additional staff and accommodation. The use of a switch board is ,therefore, NOT advised.

If however, a switch board is used, it should be located in the protected part of the building.

There should be three Reconnaissance Parties per Control Centre/Such Control Centre Party per shift, each party consisting of two Reconnaissance Officers. The object of having Reconnaissance Parties in a Sub-Control Centre is that the Sub-Control Centre should be able to have first hand information about any serious damage or unexploded bombs where special reconnaissance would be necessary. On receipt of a report of any such kind, they will, on instructions from the Officer-in-Charge of Sub-Control Centre, proceed to the scene of incident and carry out such further reconnaissance as may be necessary and report back to the Sub-Control Centre. This will enable the Sub-Control Centre to have a graphic account of the situation and decide upon the measures necessary to deal with the situation. Members of Reconnaissance Parties should normally be recruited from instructional staff. No separate manpower is therefore necessary for this purpose.

The Reconnaissance Parties will be accommodated in the Sub-Control Centre the size of which should be increased suitably to meet their requirements also.

A reserve of 25 per cent of the personnel for Reconnaissance parties should be recruited and trained. The reserve of equipment and vehicle should be 10 per cent.

4.14 **“IN-Messages” –**

- (i) “IN-Messages” should be written down in Sub-Control or Control Centres on CDM2 if they start with the phrase Fire/Express/Air Raid Damage as the case may be and on form CDMA for other messages. These forms are printed in red to distinguish them readily from “OUT-Message” form which are printed in black (see paragraph 4.15 below).
- (ii) The number of copies required should be decided in advance by the Officer-in-Charge and this number should henceforth apply to all messages received whether by telephone or by messenger. Four copies should normally be sufficient even in the largest Centres.
- (iii) Arrangements must be made for making copies in the Message Room of message received through messengers.

4.15 **“OUT-Messages” –**

- (i) Messages should be written on CDM3.
- (ii) Sufficient copies of all messages must be taken so that apart from those required for use in the Centre, one copy for each addressee can be passed to the Message Room.

- (iii) In the 'Addressed to' part of the form should be written the designation and address of the person for whom it is intended. It should seldom be necessary to use the actual name of the addressee. It is advisable that recognized abbreviations for the designation and address should be used and made known to all concerned.
- (iv) The text should be concise but complete and whenever possible each message should refer to only one incident or a group of incidents when several have been grouped for the purpose of incident control.
- (v) It is essential that messages reporting damage should describe the place in a manner which will enable to Plotting Clerk-cum-Chart Writer who may have little local knowledge to identify readily the location of the incident on the map in use. Either of the two methods may be employed :-
 - (a) the name of the street in or near which the incident had occurred or the name of nearest road junction; or
 - (b) an outstanding map feature may be referred to e.g., "House 200 yards east of Telegraph Office".
- (vi) The expression "Road Blocked" should only be used to denote the fact that it is physically impossible for a vehicle to pass. Where a road is closed by the Police or other authority, e.g., because of an unexploded bomb or a dangerous building the expression "Road Closed" should be used.
- (vii) To enable the Tally Board Clerk-cum-Record Clerk to file message correctly the incident number must be inserted by the originator in the bottom right hand corner on "OUT-Messages".

4.16 Circulation of Messages –

- (a) "IN-Message" – When a message is received by telephone, the telephonist will make the required number of copies and pass them to the Message Supervisor for check. If a written message is received by messenger it will, in the first instance, be handed over to the Message Supervisor who will arrange for the required number of copies to be made.

They are then passed through the "IN" Hatch to the Chart Writer who hands over one to the Plotting Clerk. If the message reports a fire will pass a copy, which normally goes to the Officer-in-Charge (see at page 48), immediately to the Fire Liaison Officer or in his absence, to the Officer-in-Charge without delaying it for the insertion of the incident number as mentioned below. The Fire Liaison Officer or the Officer-in-Charge will, after having taken action, pass this copy to the Chart Writer for insertion of the incident number; the Chart Writer will pass it to the Officer-in-Charge for normal circulation as given below. The Plotting Clerk decides whether it related to a new incident or not. The Plotting Clerk then informs the Chart Writer either (a) that it is a new incident in which case the Chart Writer allots a number, informs the Plotting Clerk, inserts the number on the three copies with him and distributes them as below, or (b) that it is an incident previously reported and stated the number of it; the Chart Writer inserts the number of the incident on the three copies with him and distributes them as below.

The Chart-Writer then writes the number of the incident in the bottom right hand corner of all the copies and distributes them as follows :-

Copy	Plotting Clerk	After plotting the incident on the map the Plotting Clerk hands his copy back to the Chart writer who in turn enters incident number therein and passes it to the Record Clerk for filing.
1 Copy	Officer-in-Charge	If the message affects the movement of services he passes it to the Tally Board Clerk who makes the necessary alternations on the Tally Board. The Tally Board Clerk then passes the copy to the Intelligence Officer who finally keeps it on the clip file.
2 Copies	District Magistrate & C.D. Controller	For the information of the District Magistrate and C.D. Controller, Heads of C.D. Services and representatives of Essential Services. When no longer required these copies should be passed to the Record Clerk in order to save an unnecessary accumulation of papers on the table of the controlling staff.

In Sub-Control Centre three copies will be made instead of four and their distribution and course of circulation will be as shown below :-

1 copy Plotting Clerk-Chart Writer-Record Clerk

1 copy Office in Charge-Tally Board Clerk-Record Clerk

1 copy Liaison Officer (if any)

(b) "OUT-Messages"-Messages will be written on CDM3.

The number of copies will vary, but sufficient copies must be taken so that there is:-

1 copy for each addressee

1 copy for record

1 copy for the Officer-in-Charge who, if it refers to the movement of parties will pass it on to the Tally Board Clerk. The latter after making any necessary alterations on the Tally Board, will pass it to the Intelligence Officer. If the messages does not refer to the movement of parties, the Officer-in-Charge will pass his copy to the Intelligence Officer direct.

The copies for dispatch unless those for the Record Clerk and the Officer-in-Charge will be passed through the OUT-HATCH to the Message Supervisor. He will distribute them to the Telephonist or send them by

messenger. When the telephonist has completed the details on the top of the form. It will be passed through the Message Supervisor to the Record Clerk.

If the message is sent by messenger, the Message Supervisor will fill in a blank CDM3 message form, the following details from the original :-

Incident No.

Date

Time of origin of the message

Time at which dispatch was completed

Addressed to

Addressed from.

He will mark the form 'sent by messenger', initial it and pass it to the Record Clerk who will then attach it to the original to show that it has been dispatched.

In a Sub-Control Centre the distribution and course of circulation of an 'OUT' message will be as follows :-

1 copy for each addressee

1 copy for Record Clerk

1 copy for Officer-in-Charge-Tally Board Clerk-Record Clerk.

APPENDIX IV-C

TALLY BOARD

1. **Functions of the Tally Board**

The Tally Board is designed to show at a glance the Civil Defence and other resources available in an area under a Control/Sub-Control and their movement. The Tally Board will indicate the following :-

- (1) The strength of resources available to the authority at any time;
- (2) the disposition of these resources within the area; and
- (3) the deployment of the resources to the sites of incidents.

It will also show :-

- (i) the services received as 'Reinforcement' from outside the area and the services sent to outside areas, at any time; and
- (ii) the deployment of the services received as 'Reinforcement' to the place of incident.

Many other items can be included on the tally board but care is needed to avoid overloading, remembering that normally only one person will operate the board, and that detailed information can be obtained from the register of incidents kept by the Record Clerk.

In actual raiding conditions the tally board is equally important as the map. The map is meant for locating an incident or place of damage and the tally board for indicating the resources engaged in dealing with the situation.

2. **Type of Board**

The size of the board will depend on the number of depots and mobile resources available to the Control/Sub-Control Centre and the number of incidents desired to be shown on the board at any one time. The board had two panels; one 'Resources Panel' showing the resources on hand and the other the 'Incident Panels', showing the deployment of these resources at the incidents. The board should be designed so as to allow for insertion of further incident panels, if necessary. A small-black-board is included at the bottom of the 'Resources Panel' which is intended for essential information not already covered by the board. As a rough guide, a 5' x 8' board will be enough for a Control/Sub-Control Centre serving an area having a population between 2 to 5 lakhs. Detailed specification of the tally board will be given in the hand book on "Communication Service".

3. **Tallies**

A tally is a flat, regular piece of metal or some other durable substance capable of withstanding much handling without deterioration, with a flange through which a hole is perforated. They are required to be in assorted colours to represent various Civil Defence services. Materials like plastic and painted tin plate would serve the purpose very well. The shape of the tally should be somewhat as shown in the appended

diagram with one side not exceeding one and a quarter inch and other one inch. The tallies are hung on either right angled hocks or small panel pins driven of a slightly upward incline into the board. Each tally should represent a unit of the particular service and bear the number of the depots to which the service belongs. When a tally is removed from the 'Resources' panel it is immediately apparent from its colour what party or vehicle it represents and by its number, the depot from which it comes.

4. The Resources Panels

Down the right hand side of the panel are shown in writing the names of various services likely to be available to the authority. Each service has its own distinctive colour. The colour scheme for tallies of different services is shown in paragraph 9 (Nine) below.

Across the top of the panel are shown the depots at which the resources are stationed. Each depots bears its distinctive number which is also shown on the tallies representing the services available at the depot.

5. Reinforcement Received

Down the left hand side of the 'Resources Panel' is shown the 'Reinforcement Column'. The 'Reinforcement Column' provides two sub-heads (i) IN and (ii) OUT. When Services are received as 'Reinforcements' from outside the area of a Control. Sub-Control Centres, the number of service units received should be noted in writing in the 'IN' column. The units or services received as 'Reinforcements' should be represented by discs to distinguish them from 'Tallies' representing local services. The discs for 'Reinforcing' Services should be one inch in diameter with a hole near their circumference (vide diagram at page 56) and be of the same colour as allotted to the corresponding local services but for obvious reasons will not bear depot numbers. All the 'Reinforced' Services, for the operational purposes, should be assigned to some local Depot and the requisite number of 'discs' representing the 'Reinforced' Services should, therefore, be placed in the appropriate service strips below that Depot. When these 'Reinforcing' Services are moved to any place of incident, the required number of discs representing these 'Reinforcing' Services should be removed from the 'Depot' column and be placed in the 'incident' column of the particular incident. As soon as these services are returned from the 'incident' the discs relating to these services should be moved from the incident column and placed in the respective depot column. When the services are, however, returned to the parents depot, the discs representing these services are removed from the Tally Board.

6. Reinforcement Sent Out

When services are sent outside the area of a local Control/Sub-Control Centre to reinforce the services of a neighbouring area, the tallies representing the units of the local services should be removed from the panel of the 'Depot' column concerned and placed in the 'OUT' column under 'Reinforcements'.

7. The Incident Panel

Across the top of the 'Incidents' Panel there is a column for the incident number. This is indicated by a number which will correspond to the incident number plotted on the map.

When Services are ordered to be sent, the appropriate number of tallies representing the service units ordered out are moved across from the 'Resources' Panel and placed against the incident number to which they have been ordered. When the services are reported back at their depot, the tallies are returned to their original position.

All incidents brought together under one Incident Officer are treated as a single incident and the tallies of all resources sent there should be grouped under one incident number, agreed upto to represent the group of incidents. At the bottom of the incident panel are shown the non-civil defence services, e.g., Fire Service, Police, Essential Services.

8. **Fire Service, Police, Essential Services, etc.**

In the case of these services only one tally should be placed for each different type of service in the incident column, e.g., if three pumps are dealing with fire at an incident, it is not necessary to place three tallies of Fire Service below that incident column, but only one tally should be placed to show that the fire is being attended to.

It must be remembered that the Tally Board is intended to show only the resources available and their disposition. The incident which does not involve any change in the disposition of the available resources need not be shown on the Tally Board. The operator should be instructed to take action only on those messengers which relate to movement of parties or vehicles.

Incidents to which no services have been dispatched will, of course, be recorded on the Register of Incidents.

It is imperative that the depots should notify to the Control/Sub-Control Centre of the dispatch or return of services so that full check can be kept on their movement and the Tally Board is kept up-to-date.

9. The colour scheme for Tallies of different Services is as follows :-

I. **C.D. Services**

(1)	Rescue Parties	Blue
(2)	First Aid Parties	White with light green bar
(3)	Mobile First Aid Posts	White with green bar
(4)	Ambulances	White with light red bar
(5)	Mobile Surgical Unit	White with red bar
(6)	Other C.D. Services-	
	Canteens	Light Green with white bar
	Incident Officers	Light Blue with white bar
	Reconnaissance Parties	Deep Grey with white bar

II. **Non-C.D. Services**

(1)	Fire Service	Red
(2)	Police Service	Brown

(3) *Repair Parties of Essential

Light Grey with letters representing each service

(4) Bomb Disposal Squads

Blue with red bar.

* In order to identify the various repair belonging to essential services the following letters are suggested :-

Repair Parties	Gas Mines	-	G
- do -	Water Mains	-	Wa.
- do -	Electricity Mains	-	El.
- do -	Sewers	-	Sew.
- do -	Telephones	-	Tel.
- do -	Road	-	Rd.

NOTE- The bars mentioned above should be ¼" thick painted at the bottom of a tally.

APPENDIX IV-E

(a) Guide to the size of Sub-Control Centres

No. of wardens Posts in Area	Map Room (Assuming Three Representatives)	Message Room	No. of Telephonists	No. of Messengers	Messengers Room
	Sq. ft.	Sq. ft.			Sq.ft.
50 Posts	350	375	12	15	250
30 Posts	325	250	8	10	167
10 Posts	300	150	4	5	120

(b) Guide to the size of Combined and Sub-Control Centres

No. of wardens Posts per Sub-Control Centre	Control Room i.e. Map Room (Assuming six Representatives and C.D. Controller)	Message Room	No. of Telephonists	No. of Messengers	Messengers Room
	Sq. ft.	Sq. ft.			Sq.ft.
50 Posts	525	425	12 + 2	15 + 3	300
30 Posts	500	275	8 + 1	10 + 2	200
10 Posts	450	150	4	5 + 1	120

(c)Formulae

The general formulae for determining the number of Telephonists and Messengers and accommodation requirements of Sub-Control/Control Centre Staff are given below :-

Staff	Sub-Control Centre	Combined Sub-Control and Control Centre	Control Centre (when not combined)
(i) No. of Telephonists	No. of W. Posts* ----- + 2 5	1 to 2 Telephonists more.	4 to 8 Telephonists
(ii) No. of 'OUT' Messengers	No. of W. Posts* ----- + 2 4	1 to 3 Messengers more.	5 to 10 Messengers

* Warden Posts.

Accommodation –

- (i) Roughly 25 square feet head are provided.
- (ii) Minimum size of room should be 120 sq. feet.
- (iii) For Messengers Room accommodation should be provided only for two-thirds of the number of out-door Messengers.

(NOTE : All Messengers are not expected to be continuously in the room, as some of them will be out on errands.)
- (iv) For details of staff of Map Room and Message Room see Appendices IV-F(1) and (2). For Map Room, calculate also the accommodation required by the representatives and the Controller and ass 100 sq. ft. for equipment.

APPENDIX IV-F(1)
STAFF OF SUB-CONTROL CENTRE

Details of one shift

Details	No. of Wardens Posts per Sub-Control Centre		
	50 Posts (Population 5 lakhs) (1)	30 Posts (Population 3 lakhs) (2)	10 Posts (Population 1 lakhs) (3)
Officer-in-Charge	1	1	1
Plotting Clerk/Chart Writer	1	1	1
Tally Board Clerk/Records Clerk	1	1	1
“IN” Messenger	1	1	1
(a) Total of ‘Map Room’ Staff	4	4	4
Message Supervisor	1	1	Nil
Telephonists	6	4	2
“IN” Messengers	1	1	Nil
(b) Total of Message Room Staff	8	6	2
(c) Total of ‘OUT’ Messengers	6	4	2
Total in shift i.e. total (a), (b) and (c)	18	14	8

A reserve of 25% of the personnel should be provided. Besides the above staff there should be one reconnaissance party per shift in Sub-Control Centre.

APPENDIX IV-F(2)

STAFF OF COMBINED CONTROL AND SUB-CONTROL CENTRE

Details of one shift

Details	No. of Wardens Posts per Sub-Control Centre		
	50 Posts (5 lakhs Population) (1)	30 Posts (3 lakhs Population) (2)	10 Posts (1 lakhs Population) (3)
Officer-in-Charge	1	1	1
Intelligence Officer	1	-	-
Plotting Clerk/Chart Writer	1	1	1
Tally Board Clerk/Records Clerk	1	1	1
"IN" Messenger	1	1	1
(a) Total of 'Map Room' Staff	5	4	4
Message Supervisor	1	1	Nil
Telephonists	10	6	2
"IN" Messengers	1	1	1
(b) Total of Message Room Staff	12	8	3
(c) Total of 'OUT' Messengers	10	6	2
Total in shift i.e. total (a), (b) and (c)	27	18	9

Besides the above staff there will be 2 Reconnaissance Parties per shift in a Control Room. Each Party will consist of 2 persons. Extra accommodation should be provided for them near Control Room. Where Intelligence Officer is not provided his duties should be performed by the Office-in-Charge.

APPENDIX IV-G
MESSAGE FORM CDM 1

Date origin	Form of Report to sub-control	Time of
Centre of Fire Station		
1. *(Commence report with the words) :- FIRE/EXPRESS/AIR RAID DAMAGE REPORT		
2. Designation Reporting Agent :- (e.g., Warden's Post Number)		
3. Time of Incident – (Approx.)		
4. Place of Incident -		
5. *Cause of Damage - Aircraft	H.E.	I.B. Cr.
6. Casualties :- (If any trapped under wreckage or fire say so).		
7. Type of Fire, if any -		
8. Name of Roads Completely Blocked -		
9. *Damage to Mains-Water, Gas, Sewers, Overhead/Underground Electric Cables		
10. Position of Unexploded Bombs -		
11. Services already on the spot or coming -		
12. Remarks -		
(Finish with the words) - ENDS”		“MESSAGE
ORIGINAL/	These words are for use with a report sent by messenger.	
DUPLICATE	Delete whichever does not apply.	

*Put a ring the actual damage and leave others alone.

NOTE : For express of fire report use only columns 1-8 and where necessary column 12 also.

APPENDIX IV-H
MESSAGE FORM CDM 2
(For use at Sub-Control Centres)

Date	Time at which receipt of message		
Telephonist's	Was completed		
Initial			
1.	*(Commence report with the words) :- <div style="text-align: center;">FIRE/EXPRESS/AIR RAID DAMAGE REPORT</div>		
2.	Designation Reporting Agent :- <div style="text-align: center;">(e.g., Warden's Post Number)</div>		
3.	Time of Incident – (Approx.)		
4.	Place of Incident -		
5.	*Cause of Damage - Aircraft	H.E.	I.B. Cr.
6.	Casualties :- <div style="text-align: center;">(If any trapped under wreckage or fire say so).</div>		
7.	Type of Fire, if any -		
8.	Name of Roads Completely Blocked -		
9.	*Damage to Mains-Water, Gas, Sewers, <div style="text-align: center;">Overhead/Underground Electric Cables</div>		
10.	Position of Unexploded Bombs -		
11.	Services already on the spot or coming -		
12.	Remarks -		
Incidents			Serial No. of
the Map			(Inserted in
			Room).
	(Finish with the words) -		"MESSAGE
	ENDS"		

*Put a ring the actual damage and leave others alone.

APPENDIX IV-I
MESSAGE FORM CDM 3

Date	Time at which dispatch of message	
Telephonist's	was completed	Initials

Addressed to :-

Text of Message :-

Time of Origin of Message :- Addressed from :-	Serial No. of Incident (Inserted in the Map Room)
Signature (of official authorizing the dispatch of an "out message")	

APPENDIX IV-J
MESSAGE FORM CDM 4

Date _____ Time at which dispatch of message _____
Telephonist's _____ was completed _____ Initials _____

Addressed to :-

Text of Message :-

Time of Origin of Message :-	Serial No. of Incident (Inserted in the Map Room)
Addressed from :-	

APPENDIX IV-K

STATIC DAMAGE MAP

The Control and Sub-Control Centre should have a special map for those incidents which have not been cleared up by the midnight of next day of the occurrence and where the damage is so great that some time may elapse before the damage is repaired or the incident cleared. Even if the Wardens have been withdrawn after having given over charge to Essential Services, Police or Military and the incidents have been cleared from the C.D. point of view, but in fact still some work had to be done by non-C.D. Services and such work will take some time before the incidents are cleared finally, such an incidents are plotted and the incident will be re-plotted in the Static Damage Map. The Static Damage Map will show at a glance to the controller and other Officers the incidents which are static and not cleared up.

The following category of incidents may have to be plotted on Static Damage Map :-

- (1) Unexploded Bombs
- (2) Crashed Air Craft
- (3) Big fires
- (4) Fires controlled or extinguished but which have flared up again.
- (5) Roads blocked owing to crater or fall of heavy building.
- (6) Damage to -
 - (i) Water Reservoirs
 - (ii) Generating Stations
 - (iii) Bridges, etc.

The Intelligence Officer and Officer-in-Charge of Sub-Control Centre will write in short, adopting the Express Message style, the details of incidents on a Card specially meant for static Damage Map showing such incidents.

In writing the Card, the Officer-in-Charge will write –

- (i) Number and date of incident
- (ii) Location
- (iii) Nature of Damage
- (iv) Action taken

e.g. :-

- (i) Incident No. 4 of 3rd December 20.....
- (ii) Patel Nagar Waterworks
- (iii) Pumping Station blown up
- (iv) Municipal Corporation informed

The Sub-Control Centres will keep the Control Centre informed of all the static damage within their jurisdiction.

The messages relating to the incidents which have been transferred to Static Damage Map should be kept on a separate row on the top of the message rack to avoid confusion. The messages relating to static incidents will be removed from the rack only when the incidents are finally cleared and/or the damage is repaired and/or it had been declared by the authorities that the damage is beyond and nothing further can be done regarding the incidents.

The Officer in charge, Control Centre will keep the Controller informed of the progress of the static damage.

PART – III
MESSENGER SERVICE

5.1 **Duties** – There will be two types of Messengers-Indoor Messengers and Outdoor Messengers. Outdoor Messengers are an essential part of the Civil Defence Organisation and provide an alternative means of communication in case of a breakdown of the telephone service. They are required to provide communication from Warden's Posts etc. to the Control/Sub-Control Centre and from the Control/Sub-Control Centre to Warden's Posts, Combined Depots, First Aid Posts, etc. and also to the next higher authority.

Indoor Messengers will be required at Control Centre, Sub-Control Centres and First Aid Posts to assist in passing on messages between various authorities under the same roof (i.e. indoor) and any other assistance that may be needed of them.

5.2 **Control** – The Officer in charge, communication is in general charge of this service. He will generally require a staff Officer or Messenger Commandant, who should be responsible under his direction for the organisation, administration, enrolment, training of the service and the maintenance of records. He should be provided with the necessary clerical staff.

5.3 **Numbers Required** – The numbers of messengers required for each CD service are shown under the respective services.

A reserve of 25 per cent of the establishment should be enrolled and trained.

The numbers required for the Fire Service need special consideration in the light of local conditions. Messengers for the Fire Service should form part of that service and not of the Messenger Service.

5.4 **Equipment for Outdoor Messengers** – 1 Bicycle per Messenger. In addition a proportion of motor cycles may be necessary when the Warden's Service relies on the use of Messengers for Posts where no telephones exist.

5.5 **Accommodation** – Messengers should be considered when providing accommodation at Warden's Posts, Depots, Sub-Control/Centres, etc.

Incident Control & Management

Incident Officers

There may be instances when any incident may be beyond the capacity of emergency responder to cope with, thus requiring a person of higher status and better co-ordination skills for Incident Management. This would be necessary to affect better control over responding agencies beyond the jurisdiction of Civil Defence. An officer designated as "Incident Commander" will be selected from amongst Civil Defence Instructors / CD Staff Officers / Senior Wardens who have no operational function during any emergency. Their duties in general will consist of :-

- Exercising control over the C.D. Services at the scene of incident
- Effecting co-ordination with other agencies of the District at the scene of Incident.
- Ensuring systematic and safe operations at the scene of Incident;
- Periodically informing Control Center / Sub-Control Center on the progress of incident operations.

One Incident Commander per 50,000 population may be selected and trained with a provision for reserve of 25 per cent.

Incident Commanders should be selected considering the factors of leadership qualities, Commanding attributes, Planning abilities, Effective assessment of incident needs, Coolness in danger, etc. They should have detailed knowledge of the topography of the affected area and Civil Defence operations.

It is desirable to accommodate the Incident Commanders in the CD Depots because transport and other information will be readily available there. Until the arrival of an Incident Commander, the Post Warden or the senior most Warden present will co-ordinate the activities of various services at the scene of damage.